Fact Sheet

Methodology for Estimating Trip-Generation Rates of Smart Growth Land Use Projects

Objective: The goal of this effort is to identify or develop an acceptable methodology that practitioners can use to estimate multimodal trip-generation rates for transportation impact analyses (TIAs) of "smart growth" land use development projects proposed in California (such as urban infill, downtowns, pedestrian and transit-oriented developments, mixed land uses, etc.) Such a methodology is needed to accurately estimate impacts and to identify appropriate multimodal improvements to help "mitigate" such projects.

Why? The California Environmental Quality Act (CEQA) and other State, Federal, and local laws require the identification, analysis, and mitigation of transportation-related impacts of proposed land use projects. Local agencies typically require the preparation of a Transportation Impact Analysis (TIA) for major projects. A first step in preparing a TIA is estimating the number and types of vehicles and other travel associated with a proposed land use project - commonly referred to as "trip-generation rates." Currently, practitioners typically obtain vehicular trip-generation rates from national data collected primarily at suburban locations that lack transit, bicycle or pedestrian facilities. However, recent studies indicate that such data significantly over-estimates automobile traffic associated with smart growth land uses. **Unfortunately, there is currently no methodology, tool, or data available in the U.S. that can adequately estimate travel associated with smart growth land use projects.** This makes it extremely difficult to accurately forecast impacts and benefits of such projects, or to identify and implement appropriate and adequate multimodal "mitigation measures" for walking, biking, driving, and transit.

How? With ongoing input from a team of California practitioners, UC Davis researchers are identifying and assessing available research and methodologies on quantitative relationships among vehicle travel, mode choice, land use location and design, and other resources. They will then select or develop a methodology appropriate for estimating multimodal travel of smart growth land uses that is acceptable for use in preparing TIAs for such projects. Finally, they will collect cordon count data at selected smart growth sites in California and use it to calibrate and validate the recommended methodology.

Products: This project is expected to produce, describe, and disseminate: An analysis of the adequacy of available methodologies and tools; a proposed smart growth trip-generation rates estimation methodology; cordon count data collected at smart growth sites in California; a recommended methodology; documentation and a Users' manual for the methodology; a final report of the study; and a workshop to describe the results. All products will be posted free-of-charge on a publicly available website.

Outcomes: The successful completion of this project will enable practitioners and public agencies to more accurately estimate transportation impacts and benefits of proposed smart growth land use projects in California than is currently possible. It will also provide data needed to identify and implement adequate mitigations for such projects, such as: appropriate amounts of parking, adequate transit service, and safe pedestrian and bicycle facilities - in addition to traditional roadway improvements. If successful, the results will be a significant contribution to the traffic engineering and planning fields, and will help overcome barriers to implementing smarter, safer land uses that meet social, economic and environmental goals.

Who benefits? Transportation and land use stakeholders, regional planning agencies, counties, cities, transit agencies, air quality districts, environmental groups, smart growth developers, consultants, elected officials, Caltrans, and the public.

Who is implementing this project? UC Davis' Sustainable Transportation Center - Professors Susan Handy, Deb Niemeier, and Kevan Shafizadeh, with assistance from practitioners and graduate students.
Cost/timeframe: Total: $485,000 (Caltrans Div. of Research & Innovation). Sept. 2009 – Dec. 2012.
For more information, contact Caltrans' Project Manager, Terry Parker, Senior Planner, HQ Division of Transportation Planning, Office of Community Planning, at**:** terry.parker@dot.ca.gov *(Updated 7-8-2011 TP)*